









Key Differences Between Foundation Models and Traditional AI in Healthcare



By addressing the limitations of traditional AI training, foundation models represent a significant leap forward rather than a mere incremental improvement in clinical AI capability. Here's how training foundation models differs from traditional AI.

Challenge	 Foundation Model Approach	 Traditional AI Model Approach
 Pre-Training Requirements	Uses self-supervised learning and few shot technologies to find complex patterns to develop a generalized model.	Use supervised learning to develop a single-task, single use case algorithm.
 Scalability	Creates an adaptable base that can power hundreds of AI use cases and data types.	Developed as one model for one task—like building a single tool for a single job.
 Data Requirements	Trained on massive, diverse and heterogeneous datasets.	Requires large, labeled, task-specific datasets for each application.
 Multimodal Insight	Combines diverse data types with imaging, reports and patient history from EHRs for context-aware diagnostics.	Primarily focused on a single modality (e.g., image analysis or text processing) from a single source insight.
 Adaptability	Diverse pre-training enables adaptation to local conditions and data variations, ensuring consistent performance across populations and healthcare systems.	Requires specialized models and calibration for each department or facility, limiting adaptability and adding deployment complexity.
 Training Time	Quickly fine-tuned for specific tasks or workflows with minimal additional data and computational effort.	Requires training models from scratch for each new application.

Learn more about how a foundation model plus an AI platform are transforming healthcare at www.aidoc.com